

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Galbiati Alessandro, Galbiati Paolo

Serial No. 10/509,310

Filed : March 26, 2003

Title: "Silane terminated sulphydric acid based Michael polyaddition polymers "

DECLARATION UNDER CFR1.132

I, Alessandro Galbiati declare what follows:

1. I am an Italian citizen residing at Gambolò (PV), Italy,
2. I am familiar with the English language.
3. I further declare that:

A) EDUCATION

In 1995 I graduated in Chemistry at the University of Milan,

B) JOB EXPERIENCES

In 1998 I worked as post-doc Researcher at Laboratoire de Chimie et Procédés de Polymérisation, LCPP du CNRS, Villeurbanne, France in the field of living radical polymerisation in emulsion (Rhône-Poulenc grant).

Since 1999 I have been working at N.P.T. Srl (chief of Research) in the field of synthesis of new hybrid polymers for adhesives industry.

I am also a co-inventor of the following US patents (US6221994) and co-author of the following scientific publications and communications:

- Gli adesivi silanici, origine, diffusione e problematiche ambientali, *Il Posatore* **2006**.
- Effect of oxygen on degradation process induced by gamma irradiation on poly(d,l-lactide)-poly(ethylene glycol) multiblock copolymer, R. Dorati, P. Perugini, F. Pavanetto, T. Modena, L. Colombo, A. Galbiati, I. Genta, B. Conti Poster presented at *Controlled Release Society Congress*, Vienna, **2006**.
- Guest orator ("Adhesives and sealants based on new silane terminated prepolymer") at *Macromolecules course, University of Milan*, **2006**.
- Characterization of Polyurethane Pre-Polymers by ^1H NMR Analysis in Solution, A. Galbiati, M. Pegoraro, G. Ricca, *Journal of Applied Polymer Science* **2003**, 87, 347.
- Cyclopolymers as Liquid Membrane Carriers, *Macromolecules* **2003**, 36, 8894.
- A Soluble Polymer-Bound Evans' Chiral Auxiliary: Synthesis, Characterization and Use in Cycloaddition Reactions, G. Desimoni, G. Faita, A. Galbiati, D. Pasini, P. Quadrelli and F. Rancati *Tetrahedron Asymmetry* **2002**, 13, 333.
- Adesivi: l'ambiente e le nuove tecnologie, *Professional Parquet* **2001**, 4.
- I polimeri nel settore degli adesivi per parquet, *Magazine della Associazione Italiana Macromolecole* **2000**, 54, 3.
- Ring-Opening Metathesis in Emulsion Polymerization, Poster presented at *Europolymer Conference "Regular Macromolecular Structures Based on the Controlled Polymerization Processes" (EUPOC '98)*, Gargnano, **1998**.
- Living radical polymerisation in emulsion, Seminar presented at *Rhone Poulenc Research Centre*, Paris, **1998**.

- New development in living radical polymerisation, Seminar presented at *Polytechnic of Milan, 1997*.
- Synthesis of Functional Polyolefines, Seminar presented at *Polytechnic of Milan, 1997*.
- Elastomeric Polypropylene, Seminar presented at *CNR, Milano 1996*.
- Polipropilene in Presenza di $\text{Ph}_2\text{CCpNeomentilindenilZrCl}_2$, Poster presented at *Congresso Internazionale di Chimica Organometallica, "Fechem", Parma, 1995*.
- Analisi Stereochimica di Metalloceni con Sostituenti Chirali, Poster presented at *XII Convegno Italiano di Scienza e Tecnologia delle Macromolecole, Palermo, 1995*.

C) EXPERIMENTAL SECTION

- I further declare that the following experiments were carried out under my own responsibility.

COMPARATIVE EXAMPLE

- 1) 100 parts by weight of the silanated H_2S based Michael polyaddition polymer (polymer A), obtained as described in Example 1 of the patent application are mixed with 100 parts of calcium carbonate; 10 parts of titanium oxide, 0.5 parts of BHT (ditertbutylphenol) and 1 part of tryethylamine. The mixing is carried out in a planetary machine under nitrogen
- 2) 100 parts by weight of the silanated 1,3-propaneditiol Michael polyaddition polymer (polymer B), obtained as described in comparative Example A of the patent application, are mixed with 100 parts of calcium carbonate, 10 parts of titanium oxide, 0.5 parts BHT (ditertbutylphenol) and 1 part of

triethylamine. The mixing is carried out in a planetary machine under nitrogen.

The two mixtures are exposed to humidity in a mould in order to obtain rubbery films measuring 5 cm x 5 cm and having a 3mm thickness.

The films thus obtained are exposed for 300 hours to atmospheric oxygen in the presence of UV light having a spectrum from 180 to 420 nm, generated by a high-pressure Hg 500 W lamp which is placed at a distance of 40 cm from the samples, and at a temperature of 45°C. The surface of the films obtained from the two polymers is then observed. The films obtained from polymer A do not show any visible sign of superficial degradation while those obtained from polymer B show evident superficial cracks.

4. I finally declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that such wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such wilful false statements may jeopardise the validity of the applications or any patents or re-examination certificate issued thereon.

Date: January 25, 2007

Alessandro Galbiati
